

Claims

1. Method for triggering by means of a digital processing device (1, 2), at least one action on
5 digital communication data when they belong to one and the same semantic flow for which said action is designed, characterized in that it comprises steps in which:
- said device (1, 2) is fed with at least one filter
10 having three possible states which result from one or more conditions on one or more protocol attributes specified for said semantic flow, a valid state corresponding to protocol attribute values which confirm that said condition or conditions are
15 satisfied, an invalid state corresponding to protocol attribute values which confirm that said condition or conditions are not satisfied, an uncertain state corresponding to an absence of protocol attribute values to confirm that said condition or conditions are
20 or are not satisfied, each protocol attribute being specified by an ordered sequence of protocol names used in the semantic flow and by a parameter name conveyed by a protocol whose name is indicated in said ordered sequence of protocol names;
 - 25 - the digital processing device (1) applies (108) the three-state filter to said communication data as long as these data have not afforded protocol attribute values other than those from which said uncertain state of the filter results;
 - 30 - the digital processing device (2) triggers said action when said valid state of the filter results from protocol attribute values afforded by the communication data.
- 35 2. The method as claimed in claim 1, characterized in that, to apply the filter to said communication data,
- the digital processing device (1) successfully dispatches one of said protocol attributes to a

- protocol interface (40, 41, 42, 43) allocated to the protocol indicated in the ordered sequence of protocol names, (109) until the state of the filter is valid or invalid or until all the protocol attributes have been
- 5 dispatched,
- the protocol interface (40, 41, 42, 43) searches through the communication data for the value of the specified parameter and transmits this value to the digital processing device if it finds the former,
 - 10 - the digital processing device (1) evaluates the state of the filter which corresponds to the value or to the absence of value transmitted by the protocol interface (40, 41, 42, 43).
- 15 3. The method as claimed in claim 1 or 2, characterized in that each filter for feeding said digital processing device is defined by a logical combination of rules in a first table (64), each rule being defined in a second table (65) by a verification
- 20 expression comprising at least one comparison operator, an argument of which is the protocol attribute.
4. The method as claimed in claims 2 and 3, characterized in that to evaluate the state of the
- 25 filter which corresponds to the value or to the absence of value transmitted by the protocol interface, the digital processing device evaluates the state of at least one rule in the logical combination as a function of the transmission of value and then the state given
- 30 by the logical combination applied to the evaluated states of rules.
5. The method as claimed in one of the preceding claims, characterized in that it comprises a step (103)
- 35 in which the digital communication data are scanned so as to detect any change of value of a protocol attribute so as to make it possible to evaluate a change of state of the filter which corresponds to the

change of value.

6. A computer system for triggering at least one action on digital communication data when they belong to one and the same semantic flow for which said action is designed, characterized in that it comprises,
- a digital processing device consisting of a filtering engine (1) and of an actions engine (2);
 - a database (6) for feeding the filtering engine (1) with at least one filter having three possible states which result from one or more conditions on one or more protocol attributes specified for said semantic flow,
 - at least one data structure (50, 51, 52) for cataloguing a valid state corresponding to protocol attribute values which confirm that said condition or conditions are satisfied, an invalid state corresponding to protocol attribute values which confirm that said condition or conditions are not satisfied, an uncertain state corresponding to an absence of protocol attribute values to confirm that said condition or conditions are or are not satisfied, each protocol attribute being specified by an ordered sequence of protocol names used in the semantic flow and by a parameter name conveyed by a protocol whose name is indicated in said ordered sequence of protocol names;
 - means (100) for receiving communication data, useable by the filtering engine (1) to apply each necessary filter to said communication data as long as these data have not afforded any protocol attribute value other than those from which said uncertain state of the filter results;
 - means of transmission (117) of the communication data, useable by the action engine (2) to trigger said action when said valid state is contained in the data structure (50, 51, 52).

7. The computer system as claimed in claim 6, characterized in that it comprises a protocol interface (40, 41, 42, 43) allocated to each useable protocol in the semantic flow, and devised to receive from the
5 filtering engine (1), the protocol attributes defined for the protocol to which the protocol interface is allocated;

- the protocol interface (40, 41, 42, 43) being devised so as to search through the communication data
10 for the value of the specified parameter and to transmit this value to the filtering engine (1) if it finds the former,
- the filtering engine (1) being devised so as to evaluate the state of the filter which corresponds to
15 the value or to the absence of value transmitted by the protocol interface (40, 41, 42, 43).

8. The computer system as claimed in claim 6 or 7, characterized in that the database (6) comprises a
20 first table (64) which contains a logical combination of rules for each filter, and a second table (65) which contains for each rule, a verification expression comprising at least one comparison operator, an argument of which is the protocol attribute.

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9. The computer system as claimed in claims 7 and 8, characterized in that to evaluate the state of the filter which corresponds to the value or to the absence of value transmitted by the protocol interface, the
30 digital processing device is devised so as to evaluate the state of at least one rule in the logical combination as a function of the transmission of value and then the state given by the logical combination applied to the evaluated states of rules.

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10. The computer system as claimed in any one of claims 6 to 9, characterized in that the database (6) comprises at least a third table (61, 62, 63)

containing several names of actions each designed for a different semantic flow with which a specific filter is associated.